



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,829	06/28/2001	Raja Krishnaswamy	MS174293.1	5228
27195 7590 09/05/2007 AMIN. TUROCY & CALVIN, LLP 24TH FLOOR, NATIONAL CITY CENTER 1900 EAST NINTH STREET CLEVELAND, OH 44114			EXAMINER CHANKONG, DOHM	
			ART UNIT 2152	PAPER NUMBER
			MAIL DATE 09/05/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/893,829

Applicant(s)

KRISHNASWAMY ET AL.

Examiner

Dohm Chankong

Art Unit

2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-15, 17-23 and 27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-15, 17-23 and 27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1> This action is in response to Applicant's arguments filed 6.12.2007. Claims 1, 15, 23 and 27 are amended. Claims 1-8, 10-15, 17-23 and 27 are presented for further examination.

2> This is a final rejection.

Response to Arguments

3> The §101 rejection is withdrawn.

4> Applicant's arguments with respect to the §112 rejection of claims 1-8, 10-15, 17-23 and 27 have been considered and are persuasive. The §112 rejection is therefore withdrawn.

5> With respect to claims 1, 15, 23 and 27, Applicant argues that Arnold, Applicant's admitted prior art and Clarke fail to disclose that the method call interceptor is accessible to application code. The previous action relied on Applicant's admitted prior art to teach a method call interceptor intercepting a method call. Applicant's specification also states that "system code is typically written by system programmers...and is not accessible to application programmers, *and if accessible* it is typically not adaptable by application programmers" [Applicant's specification, pg. 8, lines 25-28»].

Applicant's specification clearly describes system code that is accessible to application programmers; the problem with such code however was that it was not adaptable by the application programmers. This admission clearly relates to the limitation that the method

Art Unit: 2152

call interceptor be accessible to application code. Applicant's specification describes system code as referring to an "intercepting infrastructure." [Applicant's specification, pg. 8, lines 19-20]. Applicant code is code that is written by application programmers [Applicant's specification, pg. 8, line 29 to pg. 9, line 1].

Thus, based on Applicant's own admission, at the time of Applicant's invention, it was known that system code such as a method call interceptor was accessible but not adaptable by the application programmers. Therefore, Applicant's admitted prior art teaches a method call interceptor that is accessible to application code. Applicant should amend the claims to specify that the method call interceptor is not adaptable by the application programmers which is consistent with Applicant's specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6> Only those claims that have been amended by Applicant are formally addressed in this action. For the substance of the rejection of those claims not formally addressed in this action, refer to a prior Office action, filed 3.12.2007.

Art Unit: 2152

7> Claims 1-8 and 9-14 are rejected under 35 U.S.C §103(a) as being unpatentable over Arnold et al, U.S Patent No. 6,393,497 ["Arnold"], in view of Applicant's admitted prior art ["AAPA"], in further view of Clarke et al, U.S Patent Publication No. 2002|0035642 ["Clarke"].

8> As to claim 1, Arnold discloses a system for interacting with an object, the system comprising:

an application code generic proxy that receives an intercepted method call, invokes a method on the object, receives results from the object and passes results to the entity that generated the intercepted method call based at least in part on the intercepted method call operability of the application code generic proxy modified by the application code, the application code generic proxy performs proxy pre-processing to optimize remote method call invocation before invoking the method on the object [Figure 6 | Figure 7 «items 704, 705» | column 9 «lines 4-37»].

Arnold does not expressly disclose a method call interceptor or performing machine learning.

9> With respect to intercepting method calls and routing them to proxies, AAPA clearly discloses that such functionality is well known in the art [Applicant's specification, pg. 1 «lines 10-28»]. AAPA also discloses that the method call interceptor is accessible to application code [Applicant's specification, pg. 8 «lines 25-29»]. Since such functionality is well known and utilized in conventional systems, it would have been obvious to one of

Art Unit: 2152

ordinary skill in the art to have reasonably inferred that Arnold's system also contains the similar functionality. It would have been well known in the art that if the interception system code was accessible to application programmers, as taught by AAPA, then application programmers would have more flexibility to manage the object environment.

10> With respect to machine learning, Arnold clearly discloses performing preprocessing, including optimization of the invocation by caching previous requests [column 9 «lines 4-15»]. In the same field of invention, Clarke is directed to a client-server system with a proxy system in between [Figure 1]. The proxy utilizes machine learning in the step of preprocessing method calls from the client in order to optimize the invocation of the calls [0027 where : Clarke discloses that the proxy is adaptive in selecting appropriate servers with the proxy "learning over time which origin servers are most prone to overload"].

It would have been obvious to one of ordinary skill in the art to incorporate Clarke's teachings of an adaptive proxy into Arnold's system. Clarke discloses that an adaptive proxy helps control network congestion over the network. Thus, one would have been motivated to modify Arnold's proxy to be adaptive to optimize network efficiency of handling requests over the network

11> Claims 15 and 20-22 are rejected under 35 U.S.C §103(a) as being unpatentable over Colyer, U.S Patent No. 5,903,725, in view of Clarke, in further view of AAPA.

12> Colyer was cited by Applicant in an IDS filed on 6.17.2002.

13> As to claim 15 Colyer discloses a method for interacting with an object, the method comprising:

- creating a base class proxy object [column 7 «lines 37-51» : parent class];
- creating an application code generic proxy, the application code generic proxy inherits from the base class proxy object [column 7 «lines 37-51» | column 11 «lines 45-64»];
- overriding a base class method defined in the base class, the overridden method receives an intercepted method call [column 3 «lines 1-11» | column 12 «lines 4-18»];
- intercepting a method call on the object [column 3 «lines 1-11»];
- routing the method call to the application code generic proxy [column 3 «line 61» to column 4 «line 44»];
- invoking the method on the object [column 3 «line 53» to column 4 «line 25»];
- receiving a first result from the object [column 3 «lines 44-59»]; and
- returning a second result to the entity that generated the intercepted method call [column 3 «line 61» to column 4 «line 6»].

Colyer does not expressly disclose that the interception is made accessible to a developer or adapting the proxy functionality with the proxy performing pre-processing comprising transaction processing and machine learning.

14> AAPA discloses that the method call interceptor is made accessible to application code [Applicant's specification, pg. 8 «lines 25-29»]. Since such functionality is well known and utilized in conventional systems, it would have been obvious to one of ordinary skill in

Art Unit: 2152

the art to have reasonably inferred that Arnold's system also contains similar functionality. It would have been well known in the art that if the interception system code was accessible to application programmers, as taught by AAPA, then application programmers would have more flexibility to manage the object environment.

15> In the same field of invention, Clarke is directed to a client-server system with a proxy system in between [Figure 1]. Clarke's proxy is adaptive in the sense that the proxy utilizes machine learning in the step of preprocessing method calls from the client in order to optimize the invocation of the calls [0027 where : Clarke discloses that the proxy is adaptive in selecting appropriate servers with the proxy "learning over time which origin servers are most prone to overload"].

It would have been obvious to one of ordinary skill in the art to incorporate Clarke's teachings of an adaptive proxy into Colyer's system. Clarke discloses that an adaptive proxy helps control network congestion over the network. Thus, one would have been motivated to modify Colyer's proxy to be adaptive to optimize network efficiency of handling requests over the network.

16> Claims 17-19, 23 and 27 are rejected under 35 U.S.C §103(a) as being unpatentable over Colyer and Clarke, in view of Arnold, in further view of AAPA.

17> As to claim 17, Colyer does not disclose the preprocessing including load balancing, object migration, object persisting, monitoring remote method calls.

18> In the same field of invention, Arnold discloses a proxy performing preprocessing including object migration, monitoring remote method calls, caching local data, caching remote data, and controlling remote method call invocations [column 9 «lines 4-27»].

It would have been obvious to incorporate Arnold's preprocessing steps into Colyer's proxy object. Arnold discloses that such steps improve network response to method call invocation. Thus, one would have been motivated to combine the references to improve upon Colyer's proxy for the reasons stated in Arnold.

19> As to claims 18 and 19, Colyer does not expressly disclose performing post-processing.

20> Arnold discloses the application code generic proxy performing proxy post-processing after receiving the results from the object [Figure 7 «item 712»], whereby the post processing includes transaction processing, monitoring remote method calls, caching local data, and controlling remote method call invocations [column 9 «lines 4-37»]. It would have been obvious to one of ordinary skill in the art to incorporate Arnold's post processing steps into Colyer's system to enable caching of objects which improves network response to method call invocation.

21> As to claims 23 and 27, as they do not teach or further define over the previously claimed limitations, they are rejected for at least the same reasons set forth for claims 15 and 17-19.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

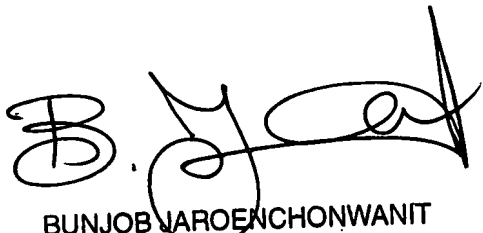
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is 571.272.3942. The examiner can normally be reached on Monday-Friday [8:30 AM to 4:30 PM].

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571.272.3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2152

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DC


BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER
8/30/7